SEQUENCE LISTING

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<120> REDOX-STABLE, NON-PHOSPHORYLATED CYCLIC PEPTIDE INHIBITORS OF SH2 DOMAIN BINDING TO TARGET PROTEIN, CONJUGATES THEREOF, COMPOSITIONS AND METHODS OF SYNTHESIS AND USE

<130> 214683

<140> 09/998,350

<141> 2001-11-30

<150> PCT/US00/15201

<151> 2000-06-02

<150> 60/137,187

<151> 1999-06-02

<160> 19

<170> PatentIn version 3.1

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<213> Artificial Sequence

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<222> (1)..(1)

<223> Xaa = Gla, which is gamma-carboxy-L-glutamic acid

<220>

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<222> (9)..(9)

<223> Tyr at position 9 is an amide, i.e. C(O)NH

<220>

<221> misc_feature

<222> (1)..(9)

<223> Xaa (Gla) and Tyr at position 9 are bridged together, making this peptide cyclic

<400> 1

Xaa Leu Tyr Glu Asn Val Gly Met Tyr
1 5

<210> 2

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<222> (1)..(1)

<223> Xaa at position 1 is alpha-amino-adipic acid (Adi)

<220>

<221> misc_feature

<222> (4)..(4)

<223> Xaa at position 4 is Glu or Adi

<220>

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<222> (9)..(9)

<223> Tyr at position 9 is an amide, i.e., C(O)NH

<220>

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<222> (1)..(9)

<223> Xaa at position 1 and Tyr at position 9 are bridged together, mak
ing this peptide cyclic

<400> 2

Xaa Leu Tyr Xaa Asn Val Gly Met Tyr
1 5

<210> 3

<211> 9

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<213> Artificial Sequence

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<222> (1)..(1)

<223> Xaa is any amino acid other than Glu

<220>

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<222> (9)..(9)

<223> Tyr at position 9 is an amide, i.e., C(O)NH

<220>

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<222> (1)..(9)

<223> Xaa and Tyr at position 9 are bridged together, making this peptide cyclic

<400> 3

Xaa Leu Tyr Glu Asn Val Gly Met Tyr
1 5

<210> 4

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<223> Synthetic

<220>

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<222> (1)..(1)

<223> Xaa = Gla, which is gamma-carboxy-L-glutamic acid

<220>

<221> misc_feature

<222> (10)..(10)

<223> Cys at position 10 is an amide, i.e., C(O)NH

<220>

<221> misc_feature

<222> (1)..(10)

<223> Xaa (Gla) and Cys are bridged together, making this peptide cyclic

<400> 4

Xaa Leu Tyr Glu Asn Val Gly Met Tyr Cys
1 5 10

<210> 5

<211> 10

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<220>

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<222> (1)..(1)

<223> Xaa = Gla, which is gamma-carboxy-L-glutamic acid

<400> 5

Xaa Leu Tyr Glu Asn Val Gly Met Tyr Cys
1 5 10

<210> 6

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa = Gla(OtBu)2, which is di- tert-butoxy-gamma-carboxy-L-glutam
ic acid

<220>

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<222> (3)..(3)

<223> Tyr at position 3 is modified to Tyr(tBu), which is tert-butyl-ty
rosine

<220>

<221> misc_feature

<222> (4)..(4)

<223> Glu at position 4 is modified to Glu(OtBu), which is tert-butoxy-
glutamic acid

<220>

<221> misc_feature

<222> (5)..(5)

<223> Asn at position 5 is modified to Asn(Trt), which is is trytyl-asp
aragine

<220>

<221> misc_feature

<222> (9)..(9)

<223> Tyr at position 9 is modified to Tyr(tBu), which is tert-butyl-ty
rosine

<220>

<221> misc_feature

<222> (10)..(10)

<223> Cys at position 10 is modified to Cys(Trt), which is trytyl-cyste
ine, and Cys(Trt) is connected to a resin

<400> 6

Xaa Leu Tyr Glu Asn Val Gly Met Tyr Cys
1 5 10

<210> 7

<211> 9

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<223> Synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa = Gla, which is gamma-carboxy-L-glutamic acid

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa has a ClCH2C(O)- group attached

<220>

<221> misc_feature

<222> (9)..(9)

<223> Tyr at position 9 has a -C(CH2SH)C(O)NH2 group attached

<400> 7

Xaa Leu Tyr Glu Asn Val Gly Met Tyr
1 5

<210> 8

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa = Adi, which is alpha-amino-adipic acid

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa has a CH2CO- group attached

<220>

<221> misc_feature

<222> (10)..(10)

<223> Cys is an amide, i.e., C(O)NH

<220>

<221> misc_feature

<222> (1)..(10)

<223> Xaa (Adi) and Cys are bridged together, making this peptide cyclic

<400> 8

Xaa Leu Tyr Glu Asn Val Gly Met Tyr Cys
1 5 10

<210> 9

<211> 10

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<213> Artificial Sequence

<220>

<223> Synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> At position 1, Xaa = Adi, which is alpha-amino-adipic acid

<220>

<221> misc_feature

<222> (4)..(4)

<223> At position 4, Xaa = Adi, which is alpha-amino-adipic acid

<220>

<221> misc_feature

<222> (10)..(10)

<223> Cys is an amide, i.e., C(O)NH

<220>

<221> misc_feature

<222> (1)..(10)

<223> Xaa (Adi) at position 1 and Cys are bridged together, making this peptide cyclic

<400> 9

Xaa Leu Tyr Xaa Asn Val Gly Met Tyr Cys
1 5 10

<210> 10

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Glu has a CH2CO- group attached

<220>

<221> misc_feature

<222> (8)..(8)

<223> Xaa = Nle, which is norleucine

<220>

<221> misc_feature

<222> (1)..(10)

<223> Glu and Cys are bridged together, making this peptide cyclic

<400> 10

Glu Leu Tyr Glu Asn Val Gly Xaa Tyr Cys
1 5 10

<210> 11

<211> 10

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<213> Artificial Sequence

<220>

<223> Synthetic

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<221> misc_feature

<222> (1)..(1)

<223> Glu at position 1 is modified to Glu(OtBu), which is tert-butoxy-glutamic acid

<220>

<221> misc_feature

<222> (3)..(3)

<223> Tyr at position 3 is modified to Tyr(OtBu), which is tert-butoxy-tyrosine

<220>

<221> misc_feature

<222> (4)..(4)

<223> Glu at position 4 is modified to Glu(OtBu), which is tert-butoxy-glutamic acid

<220>

<221> misc_feature

<222> (5)..(5)

<223> Asn at position 5 is modified to Asn(Trt), which is trityl-asparagine

<220>

<221> misc_feature

<222> (9)..(9)

<223> Tyr at position 9 is modified to Tyr(OtBu), which is tert-butoxy-tyrosine

<220>

<221> misc_feature

<222> (10)..(10)

<223> Xaa = Nle, which is norleucine

<220>

<221> misc_feature

<222> (10)..(10)

<223> Xaa is an amide and is attached to a resin

<400> 11

Glu Leu Tyr Glu Asn Val Gly Met Tyr Xaa
1 5 10

<210> 12

<211> 10

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<213> Artificial Sequence

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<223> Synthetic

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<221> misc_feature

<222> (8)..(8)

<223> Xaa = Nle, which is norleucine

<220>

<221> misc_feature

<222> (10)..(10)

<223> Cys is an amide, i.e., C(O)NH

<220>

<221> misc_feature

<222> (1)..(10)

<223> Glu at position 1 and Cys are bridged together, making this peptide cyclic

<400> 12

Glu Leu Tyr Glu Asn Val Gly Xaa Tyr Cys
1 5 10

<210> 13

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<220>

<221> misc_feature

<222> (8)..(8)

<223> Xaa at position 8 is Nle, which is norleucine

<220>

<221> misc_feature

<222> (10)..(10)

<223> Xaa at position 10 is Adi, which is alpha-amino-adipic acid

<220>

<221> misc_feature

<222> (10)..(10)

<223> Xaa (Adi) is an amide, i.e., C(O)NH2

<220>

<221> misc_feature

<222> (1)..(10)

<223> Glu at position 1 and Xaa (Adi) are bridged together, making this peptide cyclic

<400> 13

Glu Leu Tyr Glu Asn Val Gly Xaa Tyr Xaa
1 5 10

<210> 14

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Glu at position 1 is modified to Glu(OtBu), which is tert-butoxy-glutamic acid

<220>

<221> misc_feature

<222> (4)..(4)

<223> Glu at position 4 is modified to Glu(OtBu), which is tert-butoxy-glutamic acid

<220>

<221> misc_feature

<222> (5)..(5)

<223> Asn at position 5 is modified to Asn(Trt), which is trytyl-aspara gine

<220>

<221> misc_feature

<222> (9)..(9)

<223> Tyr at position 9 is modified to Tyr(OtBu), which is tert-butoxy-tyrosine

<220>

<221> misc_feature

<222> (10)..(10)

<223> Xaa = Adi(OAl), which is allyloxy-alpha-amino-adipic acid

<220>

<221> misc_feature

<222> (10)..(10)

<223> Xaa is an amide, i.e., C(O)NH

<400> 14

Glu Leu Tyr Glu Asn Val Gly Met Tyr Xaa
1 5 10

<210> 15

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<220>

<221> misc_feature

<222> (4)..(4)

<223> Tyr at position 4 is modified to pTyr, which is phosphotyrosine

<400> 15

Lys Pro Phe Tyr Val Asn Val
1 5

<210> 16

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<220>

<221> misc_feature

<222> (2)..(2)

<223> Tyr at position 2 is modified to pTyr, which is phosphotyrosine

<400> 16

Phe Tyr Val Asn Val
1 5

<210> 17

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 17

Leu Tyr Glu Asn Val
1 5

<210> 18

<211> 26

<212> PRT

<213> Artificial Sequence

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<223> Synthetic

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<221> misc_feature

<222> (1)..(1)

<223> Xaa = Gla, which is gamma-carboxy-L-glutamic acid

<400> 18

Xaa Leu Tyr Glu Asn Val Gly Met Tyr Cys Ala Ala Val Ala Leu Leu
1 5 10 15

Pro Ala Val Leu Leu Ala Leu Leu Ala Pro
20 25

<210> 19

<211> 26

<212> PRT

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<223> Synthetic

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<221> misc_feature

<222> (1)..(1)

<223> Xaa = Gla, which is gamma-carboxy-L-glutamic acid

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa (Gla) has a CH2CO- group attached

<220>

<221> misc_feature

<222> (10)..(10)

<223> Cys is an amide, i.e., C(O)NH

<400> 19

Xaa Leu Tyr Glu Asn Val Gly Met Tyr Cys Ala Ala Val Ala Leu Leu
1 5 10 15

Pro Ala Val Leu Leu Ala Leu Leu Ala Pro
20 25